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DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
SAM. L. ROGERS, DIRECTOR

CENSUS OF MANUFACTURES: 1914

OILCLOTH AND LINOLEUM

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

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EXPLANATION OF TERMS.

Scope of census.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

Persons engaged in the industry.—The following general classes of persons engaged in the industry distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in the industry, distributed by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most establishments normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for the industry as a whole, the per cent distribution by sex and age of the wage earners reported for December 15, or the nearest representative day, has been calculated from the actual number reported for that date, the percentages thus obtained have been applied to the average number of wage earners for the year in the industry to determine the average number of men, women, and children employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so

simple an average as this, since the number of wage earners fluctuates from month to month. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a limited number of wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital.—The instructions on the schedule for securing data relating to capital were as follows:

The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

Materials.—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was given.

Value of products.—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

Cost of manufacture and profits.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

OILCLOTH AND LINOLEUM.

By JOHN G. HAWES.

SUMMARY AND ANALYSIS.

Scope of the industry.—The industry includes the manufacture of all kinds of floor oilcloth and linoleum, cork carpet, enameled oilcloth, table coverings, and carriage cloth. There were 18 establishments engaged primarily in the manufacture of oilcloth and linoleum for floor covering and 13 that specialized in the manufacture of enameled oilcloth. Statistics for the two classes of establishments are shown separately and in combination.

The linoleum and oilcloth intended for floor covering is made principally with a jute back, but compositions such as "linotile," "congoileum," and "feltoleum," with felt or paper back, and shade cloth were also made to some extent. This is the more important of the two industries as the establishments engaged in it gave employment to 78.4 per cent of the wage

earners and their products formed 68.8 per cent of the total for the combined industry.

The enameled oilcloth is made with a cotton back. It includes that made with a grained surface on a duck backing, which is used as an upholstering material in the manufacture of carriages and automobiles, harness, etc., and comes in black or solid colors of all kinds and is of various qualities and grains. It also includes table oilcloth for household use, a cloth of light weight, in many colors and designs, usually printed, and oilcloth for shelf and wall covering. A small amount of stair oilcloth was also reported by establishments included in this group.

Summary for the industry.—Table 1 summarizes the statistics of the industry for each census from 1899 to 1914, inclusive.

Table 1	NUMBER OR AMOUNT.				PER CENT OF INCREASE. ¹		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
OILCLOTH AND LINOLEUM.							
Number of establishments.....	31	31	27	27			
Persons engaged.....	6,234	5,557	4,112	3,409	12.2	35.1	20.6
Proprietors and firm members.....	7	11	12	26			
Salaried employees.....	576	345	217	153	67.0	59.0	41.8
Wage earners (average number).....	5,651	5,201	3,883	3,230	8.7	33.9	20.2
Primary horsepower.....	22,272	16,125	10,112	7,561	38.1	59.5	33.7
Capital.....	\$28,041,178	\$19,634,138	\$13,803,232	\$8,879,102	42.8	42.2	55.5
Salaries and wages.....	4,149,632	3,471,628	2,304,987	1,922,636	19.4	50.7	19.9
Salaries.....	936,317	649,083	361,230	294,523	44.3	79.7	22.6
Wages.....	3,213,315	2,825,545	1,943,757	1,628,113	13.7	45.4	19.4
Paid for contract work.....		27,645	4,023				
Rent and taxes (including internal revenue).....	114,805	74,449	249,369	238,004	54.2	50.8	29.9
Cost of materials.....	17,775,863	15,550,101	10,050,009	7,549,672	14.3	54.7	33.1
Value of products.....	25,598,361	23,339,022	14,792,246	11,402,620	9.7	57.8	29.7
Value added by manufacture (value of products less cost of materials).....	7,822,498	7,788,921	4,742,237	3,852,948	0.4	64.2	23.1
OILCLOTH AND LINOLEUM, FLOOR.							
Number of establishments.....	18	19	16	18			
Persons engaged.....	4,798	4,468	3,548	2,844	7.4	25.9	24.8
Proprietors and firm members.....	3	6	10	21			
Salaried employees.....	367	237	183	105	54.8	29.5	74.3
Wage earners (average number).....	4,428	4,225	3,355	2,718	4.8	25.9	23.4
Primary horsepower.....	18,782	14,158	8,703	6,421	32.7	62.7	35.5
Capital.....	\$20,292,210	\$14,721,702	\$10,108,107	\$7,176,198	37.8	45.6	40.9
Salaries and wages.....	3,201,108	2,750,367	2,020,089	1,521,174	16.5	36.2	32.8
Salaries.....	600,240	440,963	300,151	193,939	36.1	46.9	54.8
Wages.....	2,604,368	2,309,404	1,719,938	1,327,235	12.8	34.3	29.6
Paid for contract work.....		27,645					
Rent and taxes (including internal revenue).....	79,801	53,517	233,708	231,978	49.1	58.8	5.4
Cost of materials.....	11,251,876	10,145,316	6,779,263	4,853,260	10.9	49.7	39.7
Value of products.....	17,002,336	15,813,331	10,388,237	7,807,105	11.3	52.2	33.1
Value added by manufacture (value of products less cost of materials).....	6,350,460	5,668,015	3,608,974	2,953,845	12.0	57.1	22.2
OILCLOTH, ENAMELED.							
Number of establishments.....	13	12	11	9			
Persons engaged.....	1,436	1,089	564	565	31.9	93.1	-0.2
Proprietors and firm members.....	4	5	2	5			
Salaried employees.....	209	108	34	48	93.5	217.6	-29.2
Wage earners (average number).....	1,223	976	528	512	25.3	84.9	3.1
Primary horsepower.....	3,490	1,967	1,409	1,140	77.4	39.6	23.6
Capital.....	\$7,748,968	\$4,912,436	\$3,695,125	\$1,702,904	57.7	32.9	117.0
Salaries and wages.....	945,024	724,261	284,898	401,462	30.5	154.2	-29.0
Salaries.....	334,077	208,120	61,079	100,584	61.5	240.7	-39.3
Wages.....	608,947	516,141	223,819	300,878	18.0	130.6	-25.6
Paid for contract work.....			4,023				
Rent and taxes (including internal revenue).....	35,064	20,932	215,661	26,026	67.2	33.7	159.9
Cost of materials.....	6,523,987	5,404,785	3,270,746	2,096,412	20.7	65.2	21.3
Value of products.....	7,996,025	7,525,091	4,401,009	3,595,515	6.2	70.9	22.5
Value added by manufacture (value of products less cost of materials).....	1,472,038	2,120,306	1,130,263	899,103	-30.6	87.2	26.0

¹ A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.

² Exclusive of internal revenue.

MANUFACTURES.

The oilcloth and linoleum industry dates back to 1810, but did not assume any commercial importance until 1849, when there were reported 56 establishments, with a capital of \$640,700, 650 wage earners, and a total value of products of \$1,256,994. From 1849 to 1899 the number of establishments decreased by more than half, but the number of wage earners and value of products increased 396.9 per cent, and 807.1 per cent, respectively. During the 15 years from 1899 to 1914, there was an increase of 4 establishments only, and this increase was confined to that branch of the industry engaged in the manufacture of enameled oilcloth. During this period, the combined industry showed an increase of 75 per cent in wage earners and 124.5 per cent in value of products.

The relative growth of the two branches of the industry has been consistent, neither branch showing an unusual increase or decrease, due to the fact that the two classifications are so closely related.

Persons engaged in the industry.—Table 2 shows, for 1914 and 1909, the number of persons engaged in the combined industry, and in the two branches separately, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

CLASS.	Cen- sus year.	PERSONS ENGAGED IN THE INDUSTRY.		
		Total.	Male.	Fe- male.
Oilcloth and linoleum.....	1914	6,234	5,946	288
	1909	5,557	5,344	213
Proprietors and officials.....	1914	132	132	.....
	1909	111	110	1
Proprietors and firm members.....	1914	7	7	.....
	1909	11	10	1
Salaried officers of corporations.....	1914	52	52	.....
	1909	48	48	.....
Superintendents and managers.....	1914	73	73	.....
	1909	52	52	.....
Clerks and other subordinate salaried employees.....	1914	451	335	116
	1909	245	191	54
Wage earners (average number).....	1914	5,651	5,479	172
	1909	5,201	5,043	158
16 years of age and over.....	1914	5,600	5,438	162
	1909	5,154	4,996	158
Under 16 years of age.....	1914	51	41	10
	1909	47	47	.....
Oilcloth and linoleum, floor.....	1914	4,798	4,645	153
	1909	4,468	4,331	137
Proprietors and officials.....	1914	85	85	.....
	1909	82	81	1
Proprietors and firm members.....	1914	3	3	.....
	1909	6	5	1
Salaried officers of corporations.....	1914	42	42	.....
	1909	38	38	.....
Superintendents and managers.....	1914	40	40	.....
	1909	38	38	.....
Clerks and other subordinate salaried employees.....	1914	285	212	73
	1909	161	135	26
Wage earners (average number).....	1914	4,428	4,348	80
	1909	4,225	4,115	110
16 years of age and over.....	1914	4,403	4,323	80
	1909	4,193	4,083	110
Under 16 years of age.....	1914	25	25	.....
	1909	32	32	.....

Table 2—Continued.

CLASS.	Cen- sus year.	PERSONS ENGAGED IN THE INDUSTRY.		
		Total.	Male.	Fe- male.
Oilcloth, enameled.....	1914	1,436	1,301	135
	1909	1,089	1,013	76
Proprietors and officials.....	1914	47	47	.....
	1909	29	29	.....
Proprietors and firm members.....	1914	4	4	.....
	1909	5	5	.....
Salaried officers of corporations.....	1914	10	10	.....
	1909	10	10	.....
Superintendents and managers.....	1914	33	33	.....
	1909	14	14	.....
Clerks and other subordinate salaried employees.....	1914	166	123	43
	1909	84	56	28
Wage earners (average number).....	1914	1,223	1,131	92
	1909	976	928	48
16 years of age and over.....	1914	1,197	1,115	82
	1909	961	913	48
Under 16 years of age.....	1914	26	16	10
	1909	15	15	.....

The total number of persons engaged in the industry as a whole in 1914 was 6,234, of whom 90.6 per cent were wage earners, 2.1 per cent were proprietors and officials, and 7.2 per cent were clerks and other subordinate salaried employees. Males predominated in all classes, but females represented an increased proportion of the clerks and other salaried employees in 1914 as compared with 1909. A very small proportion of the wage earners, in both years, was under 16 years of age.

Table 3 gives, for the several classes of persons engaged in the industry, the percentages of increase for the two five-year periods and the per cent distribution at the three censuses.

CLASS.	PERSONS ENGAGED IN THE INDUSTRY.								
	Number.			Per cent distribution.			Per cent of increase. ¹		
	1914	1909	1904	1914	1909	1904	1909- 1914	1904- 1909	
Oilcloth and linoleum.....	6,234	5,557	4,112	100.0	100.0	100.0	12.2	35.1	
Proprietors and firm members.....	7	11	12	0.1	0.2	0.3	.....	.....	
Salaried employees.....	576	345	217	9.2	6.2	5.3	67.0	59.0	
Wage earners (average).....	5,651	5,201	3,833	90.6	93.6	94.4	8.7	33.9	
Oilcloth and linoleum, floor.....	4,798	4,468	3,548	100.0	100.0	100.0	7.4	25.9	
Proprietors and firm members.....	3	6	10	0.1	0.1	0.3	.....	.....	
Salaried employees.....	367	237	183	7.6	5.3	5.2	54.9	29.5	
Wage earners (average).....	4,428	4,225	3,355	92.3	94.6	94.6	4.8	25.9	
Oilcloth, enameled.....	1,436	1,089	564	100.0	100.0	100.0	31.9	93.1	
Proprietors and firm members.....	4	5	2	0.3	0.5	0.4	.....	.....	
Salaried employees.....	209	108	34	14.6	9.9	6.0	93.5	217.6	
Wage earners (average).....	1,223	976	528	85.2	89.6	93.6	25.3	84.8	

¹ Percentages are omitted where base is less than 100.

Salaried employees represent an increased proportion of the total persons engaged in the industry at the successive census periods shown in the table, while wage earners form a slightly decreased proportion. Each of these classes, however, increased substantially in number during the decade.

Wage earners employed, by months.—The following table gives, for the industry as a whole and for the two branches separately, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

MONTH.	WAGE EARNERS IN THE INDUSTRY.					
	Number. ¹			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
OILCLOTH AND LINOLEUM.						
January.....	5,870	5,083	2,857	100.0	93.5	97.6
February.....	5,859	5,110	3,907	99.8	94.0	98.8
March.....	5,859	5,100	3,906	99.8	93.8	98.8
April.....	5,774	5,057	3,932	98.4	93.0	99.5
May.....	5,727	5,133	3,859	97.6	94.4	97.6
June.....	5,736	5,158	3,902	97.7	94.9	98.7
July.....	5,423	5,169	3,894	92.4	95.1	98.5
August.....	5,449	5,221	3,953	92.8	96.1	100.0
September.....	5,525	5,282	3,914	94.1	97.2	99.0
October.....	5,619	5,351	3,890	95.7	98.5	98.4
November.....	5,446	5,321	3,780	92.8	97.9	95.6
December.....	5,525	5,435	3,802	94.1	100.0	96.2
OILCLOTH AND LINOLEUM, FLOOR.						
January.....	4,572	4,101	3,355	100.0	92.9	97.4
February.....	4,556	4,141	3,395	99.6	93.8	98.5
March.....	4,564	4,113	3,381	99.8	93.2	98.1
April.....	4,499	4,092	3,403	98.4	92.7	98.8
May.....	4,503	4,200	3,324	98.5	95.2	96.5
June.....	4,528	4,209	3,340	99.0	95.4	97.0
July.....	4,267	4,211	3,354	93.3	95.4	98.2
August.....	4,263	4,266	3,445	93.2	96.6	100.0
September.....	4,359	4,307	3,408	95.3	97.6	98.9
October.....	4,431	4,354	3,379	96.9	98.6	98.1
November.....	4,262	4,297	3,231	93.2	97.3	93.8
December.....	4,332	4,414	3,215	94.8	100.0	93.3
OILCLOTH, ENAMELED.						
January.....	1,298	982	502	99.6	95.9	85.5
February.....	1,303	969	512	100.0	94.6	87.2
March.....	1,295	987	525	99.4	96.4	89.4
April.....	1,275	965	529	97.9	94.2	90.1
May.....	1,224	933	535	93.9	91.1	91.1
June.....	1,208	949	562	92.7	92.7	95.7
July.....	1,156	958	510	88.7	93.6	86.9
August.....	1,186	955	508	91.0	93.3	86.5
September.....	1,166	975	506	89.5	95.2	86.2
October.....	1,188	997	511	91.2	97.4	87.1
November.....	1,184	1,024	549	90.9	100.0	93.5
December.....	1,193	1,021	587	91.6	99.7	100.0

¹ The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

The industry shows comparative regularity in monthly employment, the minimum number of wage earners employed in 1914 forming 92.4 per cent of the maximum, as compared with 93 per cent and 95.6 per cent in 1909 and 1904, respectively.

Prevailing hours of labor.—In Table 5 the average number of wage earners reported, for 1914 and 1909 for the industry as a whole, and for the two branches separately, has been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. The number employed in each establishment was classified as a total, even though a few employees worked a greater or smaller number of hours.

The figures in the following table indicate a shortening of the working day. In 1914, 53.3 per cent of the total wage earners for the combined industry were employed in establishments operating between 54 and 60 hours per week. In 1909, almost as great a proportion, 52.4 per cent of the wage earners, worked in establishments where the prevailing hours were 60 per week. The combined total of wage earners employed in establishments where shorter hours prevailed—from 48 to 54 per week—increased from 7.7 per cent in 1909 to 22.9 per cent in 1914.

PREVAILING HOURS OF LABOR PER WEEK.	TOTAL.		Oilcloth and linoleum, floor.	Oilcloth, enameled.
	1914	1909		
	1914	1909	1914	1914
Total.....	5,651	5,201	4,428	1,223
48 and under.....	6	14	6	85
Between 48 and 54.....	524	16	439	85
54.....	767	370	441	326
Between 54 and 60.....	3,012	2,074	2,273	739
60.....	1,342	2,727	1,269	73

Character of ownership.—Table 6 presents statistics concerning the character of ownership, or legal organization, of establishments in the oilcloth and linoleum industry for 1914 and 1909.

CHARACTER OF OWNERSHIP.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.
Total.....	1914 1909	31 31	5,651 5,201	\$25,598,361 23,339,022
Individual.....	1914 1909	4 5	160 246	1,111,347 906,044
Corporation.....	1914 1909	27 26	5,491 4,955	24,487,014 22,432,978
Per cent of total:				
Individual.....	1914 1909	12.9 16.1	2.8 4.7	4.3 3.9
Corporation.....	1914 1909	87.1 83.9	97.2 95.3	95.7 96.1

¹ Includes two establishments in 1914 and three in 1909 under "other" form of ownership, to avoid disclosure of individual operations.

Of the 31 establishments reported in 1914 and 1909, corporations controlled 87.1 per cent in the former and 83.9 per cent in the latter year. Over 95 per cent of the total number of wage earners and value of products were reported, for both years, by establishments under the corporate form of ownership.

Classification according to size.—The tendency of the industry to become concentrated in large establishments is indicated in Table 7.

As measured by value of products, the average size of establishments in this industry is larger than in most other industries. The average per establishment increased from \$422,319 in 1904 to \$752,872 in 1909 and to \$825,753 in 1914. In 1914, 81 per cent

of the total number of wage earners and 71.8 per cent of the total value of products were reported by establishments whose products were valued at \$1,000,000 and over.

Table 7	VALUE OF PRODUCT.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.
Total.....		1914	31	5,651	\$25,598,361
		1909	31	5,201	23,339,022
\$20,000 to \$100,000 ¹		1914	7	92	274,700
		1909	4	49	255,940
\$100,000 to \$1,000,000.....		1914	15	983	6,930,521
		1909	19	1,368	7,415,329
\$1,000,000 and over.....		1914	9	4,576	18,393,140
		1909	8	3,784	15,667,753
Per cent of total:					
\$20,000 to \$100,000 ¹		1914	22.6	1.6	1.1
		1909	12.9	0.9	1.1
\$100,000 to \$1,000,000.....		1914	48.4	17.4	27.1
		1909	61.3	26.3	31.8
\$1,000,000 and over.....		1914	29.0	81.0	71.8
		1909	25.8	72.8	67.1

¹ Includes the group having products valued at "\$5,000 to \$20,000."

Table 8 shows the size of establishments in the combined industry for 1914 and 1909, and in the two branches of the industry separately for 1914, as measured by the number of wage earners employed.

Table 8	TOTAL.				OILCLOTH AND LINO- LEUM, FLOOR.		OILCLOTH, ENAMELED.	
ESTABLISHMENTS EMPLOYING—	1914		1909		1914		1914	
	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
Total.....	31	5,651	31	5,201	18	4,428	13	1,223
1 to 5 wage earners.....	1	4	—	—	—	—	1	4
6 to 20 wage earners.....	6	69	7	87	6	69	—	—
21 to 50 wage earners.....	5	141	3	113	2	64	3	77
51 to 100 wage earners.....	—	520	10	766	2	169	5	351
101 to 250 wage earners.....	4	561	5	855	1	120	3	441
251 to 500 wage earners.....	4	1,501	3	1,234	3	1,151	1	350
501 to 1,000 wage earners.....	4	2,855	3	2,146	4	2,855	—	—
Over 1,000 wage earners.....	—	—	—	—	—	—	—	—

The largest number of wage earners for the combined industry and for floor oilcloth and linoleum are in establishments employing from 501 to 1,000 wage earners, while in the manufacture of enameled oilcloth the largest number worked in establishments employing from 101 to 250 wage earners.

Engines and power.—Table 9 shows, for the combined industry and its two branches separately, in 1914, 1909, and 1904, the number and horsepower of engines and motors employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated in the establishments reporting.

In 1904 and 1909, in the combined industry, owned power formed over 90 per cent of the total power used, while in 1914, owned power dropped to 71.7 per cent of the total. This decrease was caused by the increased use of motors run by rented power. The increase of the total primary horsepower from 1909 to 1914 is due almost entirely to the increase in the number of electric motors used. The relative proportions are practically the same in the two branches of the industry as in the combined industry.

Table 9	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.		
POWER.	1914	1909	1904	1914	1909	1904
OILCLOTH AND LINOLEUM.						
Primary power, total.....	599	223	156	22,272	16,125	10,112
Owned.....	151	175	148	15,966	15,048	9,984
Steam engines and turbines ¹	148	174	146	15,486	15,046	9,937
Internal-combustion engines.....	3	1	2	480	2	47
Rented.....	448	48	8	6,306	1,077	128
Electric.....	448	48	8	6,306	1,002	93
Other.....	—	—	—	—	75	35
Electric.....	1,022	336	125	14,965	4,540	1,275
Rented.....	448	48	8	6,306	1,002	93
Generated by establishments reporting.....	574	288	117	8,659	3,538	1,182
OILCLOTH AND LINOLEUM, FLOOR.						
Primary power, total.....	438	175	132	18,782	14,158	8,703
Owned.....	124	142	124	13,521	13,333	8,610
Steam engines and turbines ¹	124	141	123	13,521	13,331	8,608
Internal-combustion engines.....	—	1	1	—	2	2
Rented.....	314	33	8	5,261	825	93
Electric.....	314	33	8	5,261	825	93
Other.....	—	—	—	—	—	—
Electric.....	707	211	78	12,272	3,541	995
Rented.....	314	33	8	5,261	825	93
Generated by establishments reporting.....	393	178	70	7,011	2,716	902
OILCLOTH, ENAMELED.						
Primary power, total.....	161	48	24	3,490	1,967	1,409
Owned.....	27	33	24	2,445	1,715	1,374
Steam engines and turbines ¹	24	33	23	1,965	1,715	1,329
Internal-combustion engines.....	3	—	1	480	—	45
Rented.....	134	15	—	1,045	252	35
Electric.....	134	15	—	1,045	177	—
Other.....	—	—	—	—	75	35
Electric.....	315	125	47	2,693	999	280
Rented.....	134	15	—	1,045	177	—
Generated by establishments reporting.....	181	110	47	1,648	822	280

¹ Figures for horsepower include for 1904 the amounts reported under the head of "other" owned power.

Fuel.—Table 10 shows, for 1914 and 1909, the quantity of each kind of fuel used, for which data were obtained, for the industry as a whole, and for the two branches separately.

Table 10	TOTAL.		OILCLOTH AND LINOLEUM, FLOOR.		OILCLOTH, ENAMELED.	
KIND OF FUEL.	1914	1909	1914	1909	1914	1909
Anthracite coal (tons, 2,240 lbs.).....	43,673	39,139	30,105	31,195	13,568	7,944
Bituminous coal (tons, 2,000 lbs.).....	176,825	150,019	145,316	121,134	31,509	28,885
Coke (tons, 2,000 lbs.).....	625	2,218	478	1,958	147	260
Oil, including gasoline (barrels).....	828	8,215	50	8,215	778	—
Gas (1,000 cubic feet).....	1,215	—	413	—	802	—

SPECIAL STATISTICS RELATING TO PRODUCTS.

Table 11 gives the kind, quantity, and value of the various products of the industry for 1914, 1909, and 1904. The special statistics in 1909 included artificial leather, but in 1914 that product was classified as "upholstering materials," under which designation statistics appear in the general census reports.

Table 11	1914	1909	1904	PER CENT OF INCREASE. ¹	
				1909-1914	1904-1909
Products, total value.....	\$25,598,361	\$23,339,022	\$14,792,246	9.7	57.8
Oilcloth (made on cotton back):					
Enameled—					
Square yards.....	18,357,097	17,338,440	11,574,986	5.9	49.8
Value.....	\$2,495,255	\$2,265,146	\$1,542,467	10.2	46.9
Table, wall, shelf, and stair—					
Square yards.....	59,358,872	61,168,777	38,026,083	-3.0	60.9
Value.....	\$6,025,348	\$5,639,206	\$3,540,181	6.8	59.3
Oilcloth and linoleum (made on jute back):					
Floor oilcloth—					
Square yards.....	7,536,379	18,354,851	21,456,615	-58.9	-14.5
Value.....	\$1,483,731	\$3,776,660	\$3,565,689	-60.7	5.9
Linoleum, including cork carpet—					
Square yards.....	33,306,669	26,215,979	14,765,284	27.0	77.6
Value.....	\$10,043,426	\$7,850,437	\$4,223,992	27.9	85.9
Inlaid linoleum—					
Square yards.....	8,479,202	4,460,275	2,126,178	90.1	109.8
Value.....	\$4,725,837	\$2,994,491	\$1,104,808	57.8	171.0
All other products, value.....	\$824,754	\$813,082	\$815,109	1.4	-0.2

¹ A minus sign (—) denotes decrease.

The above table shows a segregation of oilcloth made on cotton back and oilcloth and linoleum made on jute back. Oilcloth used on tables, walls, shelves, and stairs is the leading cotton-backed product, its value representing 23.5 per cent of the total value of products reported for the industry as a whole. Although this variety of oilcloth decreased 3 per cent in quantity, it shows an increase of 6.8 per cent in value from 1909 to 1914.

The production of floor oilcloth decreased 58.9 per cent in quantity and 60.7 per cent in value, due to the substitution of linoleum for oilcloth in recent years. Although these are the only decreases reported in value and quantity from 1909 to 1914, percentages of increase, in all items, are very much smaller from 1909 to 1914 than from 1904 to 1909, indicating that the volume of business in this industry decreased in the last half of the decade 1904-1914.

Of the product made on jute back, linoleum, including cork carpet, is the most important. The value of this product represented nearly two-thirds (61.8 per cent) of all jute-backed products made in 1914, and more than one-third (39.2 per cent) of products reported for the oilcloth and linoleum industry. Inlaid linoleum shows the largest percentage of gain of any of the products of the industry during the five-year period, 90.1 per cent in output and 57.8 per cent in value.

Of the 31 establishments engaged in this industry in 1914, 15 were in New Jersey and Pennsylvania, and

16 in nine other states as follows: California, 1; Indiana, 2; Illinois, 1; Maine, 2; Massachusetts, 2; Michigan, 1; Missouri, 1; New York, 3; and Ohio, 3. Statistics are shown separately for New Jersey and Pennsylvania in Table 13, but could not be shown for the nine other states without disclosing individual operations. Of the 5,651 wage earners employed in the industry, New Jersey employs 2,190, or 38.8 per cent, and Pennsylvania, 1,303, or 23.1 per cent, and of the total value of products for the industry as a whole, New Jersey reports 44.5 per cent and Pennsylvania 28 per cent. These two states report the manufacture of 34.8 per cent of the total square yards of oilcloth made on cotton back, 88.1 per cent of the total square yards of floor oilcloth made on jute backing, and 92 per cent of the total square yards of linoleum, including inlaid linoleum.

Exports and imports.—Table 12 gives the amount and value of the imports and the value of the exports of oilcloth and linoleum from 1898 to 1915, inclusive, as compiled from the reports of the Bureau of Foreign and Domestic Commerce, Department of Commerce.

Table 12	IMPORTS.		Exports (value).
	YEAR ENDING JUNE 30—		
	Square yards.	Value.	
1915.....	2,648,148	\$1,199,662	\$634,386
1914.....	4,064,374	1,829,596	727,087
1913.....	4,202,786	1,840,878	807,576
1912.....	4,450,400	1,917,998	710,515
1911.....	5,321,964	2,102,612	493,902
1910.....	4,848,615	1,834,640	482,086
1909.....	5,306,329	1,894,810	359,764
1908.....	6,114,568	2,102,313	359,801
1907.....	7,109,067	2,313,772	353,808
1906.....	5,470,460	1,744,539	286,577
1905.....	3,508,855	1,220,372	269,929
1904.....	3,381,534	1,201,070	231,297
1903.....	3,358,655	1,105,894	221,417
1902.....	1,824,579	681,464	189,211
1901.....	1,306,222	532,255	172,635
1900.....	832,405	407,008	141,917
1899.....	416,653	216,210	132,532
1898.....	(1)	(1)	118,641

¹ Not reported separately prior to 1899.

Imports reported in Table 12 cover only floor oilcloth and linoleum. A clear distinction has not been made between cotton cloth and oilcloth made on cotton backing, therefore, only floor oilcloth is reported. The exports, however, include the statistics for all classes of oilcloth. Imports steadily increased from 1898 to 1907, but from 1908 to 1915, except in the year 1911, there was a continuous decrease.

The value of exports increased each year from 1898 to 1913, with the single exception of a very small decrease in 1909. There was a pronounced decrease, however, from 1913 to 1915.

By adding the floor oilcloth and linoleum imported to that produced, and subtracting from that total the exports, it will be seen that there were available for consumption in the United States in 1914, 42,412,451 square yards, valued at \$10,724,085.

DETAIL STATE TABLE.

TABLE 13.—DETAIL STATEMENT FOR THE OILCLOTH AND LINOLEUM INDUSTRY, BY STATES: 1914.

INDUSTRY AND STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.										WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.				Total.	16 and over.		Under 16.		Capital.	Salaries and wages.		
					Male.	Female.	Average number.	Number, 15th day of—		Male.		Female.	Male.	Female.	Officials.		Clerks, etc.		
								Maximum month.	Minimum month.										
OILCLOTH AND LINOLEUM.																			
United States.....	31	6,234	7	125	335	116	5,651	Ja	5,870	Jy	5,423	5,568	5,358	159	41	10	\$28,041,178	\$412,296	\$524,021
New Jersey.....	10	2,420	5	46	131	48	2,190	Fe	2,302	De	2,093	2,101	2,051	20	30	.....	10,982,932	170,813	202,212
Pennsylvania.....	5	1,980	.....	22	121	34	1,803	Oc	1,927	Jy	1,621	1,864	1,852	5	7	.....	9,446,876	87,444	190,181
All other states.....	16	1,834	2	57	83	34	1,658	.....	.....	.....	.....	1,603	1,455	134	4	10	7,611,370	154,039	131,028
OILCLOTH AND LINOLEUM, FLOOR.																			
United States.....	18	4,798	3	82	212	73	4,428	Ja	4,572	No	4,262	4,366	4,262	79	25	.....	20,292,210	259,119	341,121
New Jersey.....	7	2,020	1	39	86	36	1,858	Ja	1,949	De	1,775	1,783	1,745	20	18	.....	8,665,983	137,240	141,778
Pennsylvania.....	5	1,980	.....	22	121	34	1,803	Oc	1,927	Jy	1,621	1,864	1,852	5	7	.....	9,446,876	87,444	190,181
All other states ¹	6	798	2	21	5	3	767	.....	.....	.....	.....	719	665	54	.....	.....	2,179,351	34,435	9,162
OILCLOTH, ENAMELED.																			
United States.....	13	1,436	4	43	123	43	1,223	Fe	1,303	Jy	1,156	1,202	1,096	80	16	10	7,748,968	153,177	182,900
New Jersey.....	3	400	4	7	45	12	332	Mh ²	354	Se	312	318	306	.....	12	.....	2,316,949	33,573	60,434
All other states ¹	10	1,036	.....	36	78	31	891	.....	.....	.....	.....	884	790	80	4	10	5,432,019	119,604	122,466
EXPENSES—continued.																			
INDUSTRY AND STATE.	Salaries and wages—Contd.		Rent and taxes.		For materials.		Value of products.	Value added by manufacture.	POWER.					Electric horsepower generated in establishments reporting.					
	Wage earners.	For contract work.	Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Primary horsepower.										
									Total.	Steam engines. ⁴	Internal-combustion engines. ³	Water wheels and motors. ⁴	Electric (rented).						
OILCLOTH AND LINOLEUM.																			
United States.....	\$3,213,315	.....	\$6,339	\$108,466	\$17,123,934	\$651,929	\$25,598,361	\$7,822,498	22,272	15,486	480	.....	6,306	8,659					
New Jersey.....	1,286,672	.....	.....	55,041	7,384,698	275,095	11,384,311	3,724,518	8,223	7,230	.....	.....	993	6,613					
Pennsylvania.....	1,072,309	.....	464	12,740	4,441,328	205,575	7,165,362	2,518,459	9,554	5,336	.....	.....	4,218	1,428					
All other states.....	854,334	.....	5,875	40,685	5,297,908	171,259	7,048,688	1,579,521	4,495	2,920	480	.....	1,095	618					
OILCLOTH AND LINOLEUM, FLOOR.																			
United States.....	2,604,368	.....	5,052	74,749	10,722,569	529,307	17,602,336	6,350,460	18,782	13,521	.....	.....	5,261	7,011					
New Jersey.....	1,085,250	.....	.....	47,096	5,188,941	244,535	8,653,161	3,219,685	7,438	6,445	.....	.....	993	5,598					
Pennsylvania.....	1,072,309	.....	464	12,740	4,441,328	205,575	7,165,362	2,518,459	9,554	5,336	.....	.....	4,218	1,428					
All other states ¹	446,809	.....	4,588	14,913	1,092,300	79,197	1,783,813	612,316	1,790	1,740	.....	.....	50	75					
OILCLOTH, ENAMELED.																			
United States.....	608,947	.....	1,287	33,717	6,401,365	122,622	7,996,025	1,472,038	3,490	1,965	480	.....	1,045	1,648					
New Jersey.....	201,422	.....	.....	7,945	2,195,757	30,560	2,731,150	504,833	785	785	.....	.....	.....	1,105					
All other states ¹	407,525	.....	1,287	25,772	4,205,608	92,062	5,264,875	967,205	2,705	1,180	480	.....	1,045	543					

¹ All other states embrace: Illinois, 1 establishment; Indiana, 1; Maine, 1; Michigan, 1; and New York, 2.² Same number reported for one or more other months.³ All other states embrace: California, 1 establishment; Illinois, 1; Maine, 1; Massachusetts, 1; Missouri, 1; New York, 1; and Ohio, 3.⁴ Owned power only.⁵ Includes rented power, other than electric.

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